



THE COMMUNICATOR SURREY AMATEUR RADIO CLUB



Volume II

October 2009

Issue XXXVIII

VE7SAR

VE7RSC

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Fred Orsetti - VE7IO
John Brodie VA7XB



CLUB NET @ 8:00 P.M. Tuesday 147.36+ (110.9)

CLUB MAILING ADDRESS : 239 -7156 121 St. Surrey, B.C. V3W 0J6

**The next meeting of the Surrey Amateur Radio Club will be held at 7:30pm on Wednesday November 4th 2009 Number Nine Training Centre 14901 64th Avenue
Talk in on 147.36+ (110.9) 443.775+ (110.9)**

Minutes for Oct 7, 2009 SAR Club Meeting

1. The meeting was called to order at 7:30 pm September 9, 2009 chaired by President Heinz VA7AQ. 16 members were in attendance at the Surrey PREOC building.

2. Heinz reviewed the Executive meeting minutes with the club.

3. Anton VE7SSD confirmed he will

continue with Health and Welfare for the club.

4. The November meeting location will be the Number 9 Fire Hall at approximately the 14800 block of 64th Ave, at 7:30. This meeting will include a discussion about antenna analyzers.

5. Heinz led a discussion about the upcoming W/VE Islands contest. It is on October 17 and 18th from 09:00am (local) to 5:00pm (local). The location

was discussed with the Fort Camping Campground located on McMillan Island. (Later confirmed to be Brae Island). The cost to use the campground facilities is \$155.40. A motion was made to take participate and have the club pay for the campground fees. The motion was made by Heinz VA7AQ and seconded by John VA7XB. Vote-Carried.

6. The recent Delta Club swap meet was discussed. Congratulations for a job well done was made by those in attendance. In further discussions of the SARC swap meet it was recognized that it would take 4 or 5 club members to do it well. Volunteers were Kelvin VA7KPH and Scott VE7CNR to work along with Wayne to look at dates and move this forward.

7. The club antenna analyzer will not be replaced at this time as there are many members with these and they will help/lend them if needed.

8. John VA7XB has purchased from the estate of VE7BCM 100ft of RG8AU and 200ft of Ladder Line. This material is for SARC use.

9. Club inventory will be reviewed. Anton VE7SSD and Heinz VA7AQ will be determining items to be sold or disposed of if there is no further value.

10. John VA7XB will work with Hiu on some updates to the club website.

11. Power cords for the field day gear are required. We will need to purchase 3 – 30m 12 gauge cords. This can be deferred until closer to June.

12. CW on the air course will be starting shortly. Gary VE7AS will run this and Ralph VE7XS was also mentioned as being willing to help. It will be conducted on 2m, 1 night a week for 6-9 months. It will go for approximately 20 minutes.

13. Gary VE7AS reported that himself and Ed Fraser have started the Dogwood chapter of QCWA (Quarter Century group)

They are going to focus on 1) Historic Documentation, 2) Providing speakers for clubs throughout BC, 3) Promote youth groups, and 4) sponsor club president meetings once a year.

14. A new Ham course is being offered starting shortly possibly in the Cloverdale area. Contact Gary VE7AS for more information.

15. Financial Report. As of Sept 26, 2009 HK Bank \$1226.95, ING Term \$3459.95. Additional \$60 cash from memberships to be deposited.

16. RAC Report. Updated website as of September 1st with better self-service functionality. A membership only area is now available. To sign in you will need your membership number and your postal code.

3 special event call signs have been issued for the Olympics. Please check out the RAC website for further information: <http://www.rac.ca/en/amateur-radio/regulatory/callsigns/special-event.php>

17. The meeting then moved to building "Rat Tails" a counterpoise antenna for handhelds.

Next Meeting Nov 4th at Surrey Fire Hall #9 . 14901 64th Avenue

Langley Ham Class

A new Ham Class is starting on Wednesday October 21 at 20355 32nd Avenue in South Langley. Registration starts at 18:00, first class starts at 18:30 and finishes each Wednesday night at 21:30. Course runs 10 Wednesdays with a 2 week break for the Christmas holiday. Exam night is on the 10th night. Course Fee \$100 (cash) which includes a binder of material, a CD of material, the exam fee, coffee & some sort of nibbly and materials for an antenna project at the end of the course, attendance pending.

Contact;
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From Dave Goodwin VE7DWG

As an amateur radio operator, I have been active in public service fifteen years.

One of my favourite memories was reuniting a Mom with her lost daughter. We were at the English Bay fireworks display, about thirty thousand people. I received the girls description over the radio as she was walking in my direction.

I squatted down to her level and introduced myself, obtaining her permission to have her walk with me towards the radio person with her Mom.

As soon as the child and Mom made eye contact, there was a rush of joy felt by everyone concerned; to keep this factual - in the same split second, the Mom's demeanor shifted 180 degrees and she ordered her daughter to "Never Do That Again".

Through my hobby, I became aware of the International Geophysical Year and started investigating astronomy links. I had the good fortune to connect with the Fraser Valley Astronomical Society and help purchasing a telescope. Setting up with these folks for a public demonstration is practically identical to a battery powered radio station in the park.

My first touch of joy in my new quest was that my twelve year young grandson Jeremy has taken an avid interest and has come out to public demonstrations.

We drove out to McLean Park, north

end of number three road, a few miles east of Abbotsford on a clear night I was pleased to find facilities there included covered eating areas and a biffy. We set up on an old railroad berm minus the ties.

The public gradually began to arrive and were invited to ask questions and observe.

With the tripod and scope focused on the moon I used a small step ladder for the five to ten year children, who were vigorously elbowing each other for a place in line. When they saw the images, probably for the first time, I was again touched by the joy of their exclamations.

I am grateful that Jeremy likes something that doesn't involve a screen. "Clear Skies"

73 Dave Goodwin VE7DWG

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NEWS

Ken Clarke our QSL manager has a new call he is now VE7BC and has given up his old two letter call VE7UQ.

Good call Ken with tons of history.

The Olympic stations

Three 2 X 1 special event call signs have been assigned to the Vancouver

Olympics Amateur Radio Group (VOARG) and will be in operation during the following dates (starting at 000z)

VG7V—10/01/09 through 11/30/09

VG7W—12/01/09 through 01/31/10

VG7G—02/01/10 through 03/31/10

These calls will be used during the Olympics and the Paralympics. Use of the calls has already begun.

It is anticipated that these calls will create considerable interest amongst the Amateur Radio community worldwide as a result of the unique 2 X 1 call and for the special QSL cards that will be produced for this event.

Reserving time to use these calls can be done by contacting Ralph Webb, VE7OM by email at k806859@telus.net

A website for reserving a call is now being set up and that information will be published next month.

I have reserved VG7W for 40 and 20 meter CW during the RAC winter contest

Fred VE7IO

Don't forget the CQWW SSB contest this weekend. <http://www.cqww.com/>

This is 48 hour contest and a great place to pick up needed DX countries. It is very possible to work 100 countries in this one contest.

THE FUNNIES PAGES

THANKS TO MARIO VA7WOP FOR THE FOLLOWING

Ole's car was hit by a truck in an accident. In court, the trucking company's lawyer was questioning Ole.

'Didn't you say, sir, at the scene of the accident, 'I'm fine, ?' asked the lawyer.

Ole responded, 'Vell, I'll tell you vat happened. I had yust loaded my favorite mule, Bessie, into da....'

'I didn't ask for any details', the lawyer interrupted. 'Just answer the question. Did you not say, at the scene of the accident, 'I'm fine'?

Ole said, 'Vell, I had yust got Bessie into da trailer and I vas driving down da road...

The lawyer interrupted again and said, 'Judge, I am trying to establish the fact that, at the scene of the accident, this man told the Highway Patrolman on the scene that he was just fine. Now several weeks after the accident he is trying to sue my client. I believe he is a fraud. Please tell him to simply answer the question.'

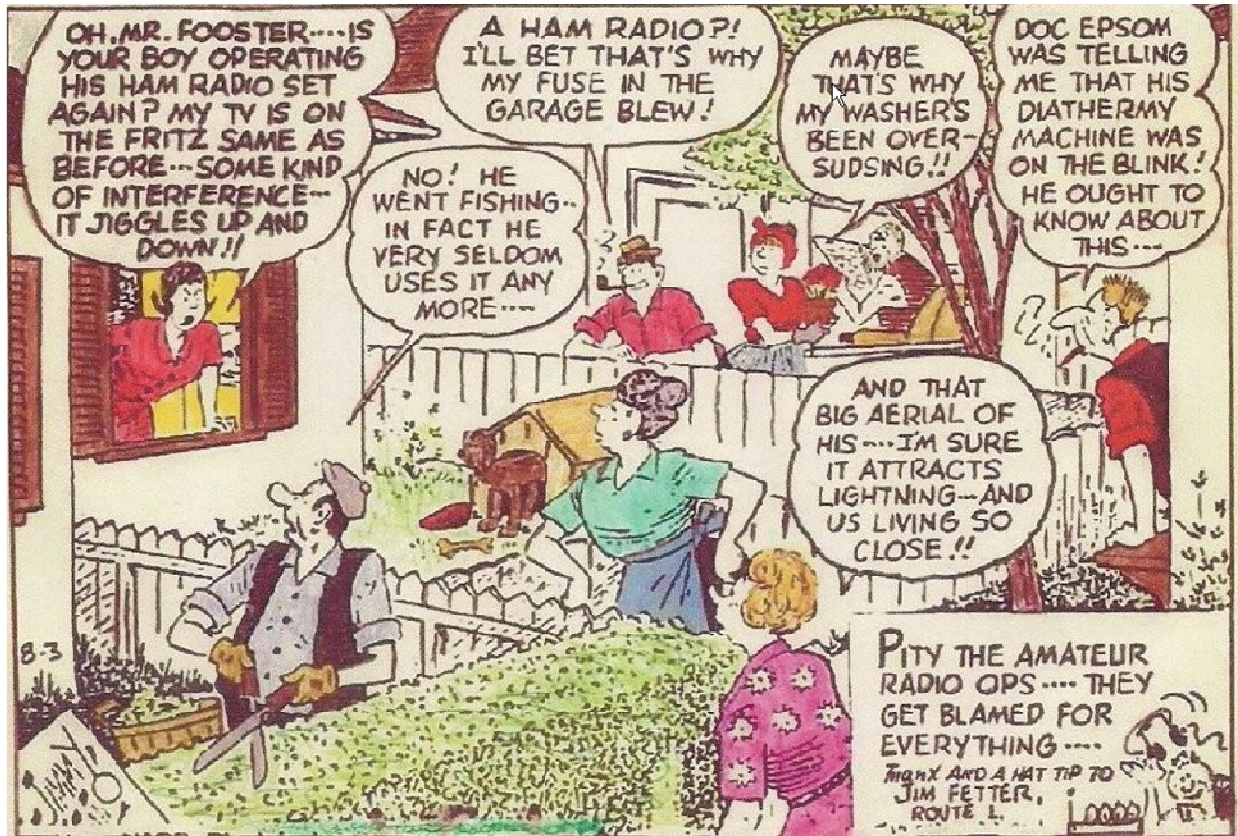
By this time, the Judge was fairly interested in Ole's answer and said to the lawyer, 'I'd like to hear what he has to say about his favorite mule, Bessie'.

Ole thanked the Judge and proceeded. 'Vell, as I vas saying, I had yust loaded Bessie, my favorite mule, into da trailer and vas driving her down da highway ven dis huge semi-truck and trailer ran da stop sign and smacked my truck right in da side. I vas trown into one ditch and Bessie vas trown into da other. I vas hurting real bad and didn't vant to move. However, I could hear Bessie moaning and groaning. I knew she was in terrible shape yust by her groans'. 'Shortly after da accident da Highway Patrolman, he came to da scene.. He could hear Bessie moaning and groaning so he vent over to her'..

'After he looked at her and saw her fatal condition he took out his gun and shot her right 'tween da eyes.

Den da Patrolman, he came across da road, gun still smoking, looked at me and said, 'How are you feeling?'

'Now vat DA hell would YOU say?



Short takes

1. President Heinz, VA7AQ and Secretary Gordon, VE7GRK along with his ham family took their RV's up to Brae Island in Ft. Langley and operated in the W/VE Islands QSO party as VE7SAR CISA # 103 last weekend (October 17th). They were joined by Bill Gipps, VE7XS, John Brodie, VA7XB, Anton James, VE7SSD and Fred, VE7IO. Unfortunately the weather was very wet and the band were extremely quite so only a few contacts were made on SSB but fun was had by all.
2. **Gary VE7AS CW on the air classes after the club net each Tuesday**
Well the first evening went well. There were 18 that checked into the net and I think about half of them stayed after the net to learn how to copy code. All went well, no major glitches at my end, but a few had problems recording the on-air sessions.

Steve and Gord will be working on getting my audio files converted to MP3 format for re-distribution or streaming over the Internet.

These CW courses will continue into the new year, each Tuesday night, except the week before and after Christmas....



Aerial Adventures

With Gary Skett, VE7AS

One of my late summer projects was to inspect my antenna system, rebuild a few [donated] rotors and get everything ready for another harsh, antenna-destroying, Arctic-like winter on the Crescent Beach peninsula. (I'm joking....)

Making sure connectors are weather-proofed, nuts are tight, masts, u-bolts, hose clamps all secured for several months of inattention. With all in order, the only thing I forgot to do was warn the electricians prior to going into the attic to run wires for pot lights [for our kitchen renovations], to be mindful of all the coax cable running from one end of the house to the other....too late....they crushed, crimped, kinked and wrapped 110vac wire around all my coax runs....after all, it's just wire... Now of course none of my antennas are working...I'm off the air until I replace 500 feet – 6 runs – of LMR240....sigh....even my long wire receive antenna was wrapped around some cabtyre running the length of the attic. So it's true, you can't fix stupid. I ran into this sad fact years ago, when the Electrical Trades were trying to do LAN cabling...and wondering why they couldn't get Cat5 certification with LAN cables spliced together with Marretts and crushed under staples and zap straps.

Anyway, I hope all your connections are protected with a good splicing or vulcanizing tape and a few wraps of Scotch 33 electrical tape. Zap straps or cable ties should be the UV resistant black variety and hose clamps stainless steel....you know, common sense stuff, the stuff we often forget we have plenty of.... ☺

One of the things I did, to improve a common problem with yagi antennas, is to replace the round boom with square stock of the same diameter. How many times have you driven past a Ham's home, looked up and see one or more of the elements on the HF yagi at different polarizations? Some horizontal, some at 45°, or each one at anything but parallel to the ground...It just takes 3 well-fed pigeons sitting on the end of your 20 metre element to provide enough leverage to move an element off the horizontal plane.... Using square stock for the boom will prevent any shifting, both at the element-to-boom and boom-to-mast plates...better if you can get/use square u-bolts, but the conventional U-bolt will work almost as well. Making a square element “cover” over the parasitic elements will also prevent the element from twisting on the square boom while in the horizontal plane too, especially if you can use two u-bolts per element.

You should also be aware that rotor cable and some coax cables may not be perfectly weather/moisture proof. Standard rotor cable does break down over a relatively short period of time – as little as 2 ½ years in standing water will render some cable jackets prone to water ingress. Coax cable is good for about 20 years if sealed properly, far less if left in standing water, nicked or compromised due to abrasion or bird droppings. Cable that is “direct burial” is far superior to what we think is outdoor cable – like the standard cable we buy, but because it's far more expensive and most of us don't think our winter is that harsh...it's not usually considered. After all, it's no big deal to replace it every decade or so.... Say, notice your SWR getting worse lately? Antenna not performing like it used to? A bit more QRN than you once remembered? Hummm....check your cables and connections lately?

Now would be a good time to mention the use of RTV, Silicon sealants, chalking, liquid neoprene [liquid electrical tape] and yes, even my favourite E6000. THEY ALL MAKE LOUSY WATER PROOFING FOR COAXIAL CONNECTORS AND TERMINAL STRIPS ON YOUR ROTORS!! They don't really seal – they just fill a void...a void that has a wick-like micro gap between the sealant and the surface of your metal connector. Over time all these sealants fail and allow

water ingress and by their nature don't allow condensation or wicked water to evaporate...thus corrosion will eventually prevail, chemical reactions result in further breakdown of these sealants, and the cycle continues until the connection fails and you open up the mess in an attempt to see what went wrong....gee you only installed it 5-8 years ago and thought it would last the rest of your life without ever having to do regular maintenance....

So I hope you got the hint... It really should be an annual event – take a few hours and go over your antenna and grounding system. Clean it up, replace tape, and replace cable ties, check for water ingress and your system will last a life time.

Now here are a few interesting things I found out about some “old” rotors I was given this summer to rebuild. Most rotors in the medium to heavy-duty category have a 40 year life-span – if they are taken care of – and installed properly. But as you can imagine not all rotors are installed properly. And here are a few things that can happen.

Using the accompanying illustrations as references, let's itemize each bearing failure problems found in your Rotor or Rotator.

Wear

Lubricant is contaminated with tiny bits of abrasive material. Finish on rollers and outer cup is dulled but in a uniform pattern. Minor wear of this type is not cause for bearing replacement.

Heat Discoloration

Can be caused by breakdown of the lubricant or an overloaded condition. Draw a file across discoloured areas. If file "bites," surface has lost its heat-treated hardness and bearing replacement is necessary.

Fatigue Spalling

Bits of metal can flake off (spall) bearing surfaces as assembly is in extended service. Metallic particles can cause further damage. A thorough cleaning of the entire area is required before a new assembly is installed.

Etching

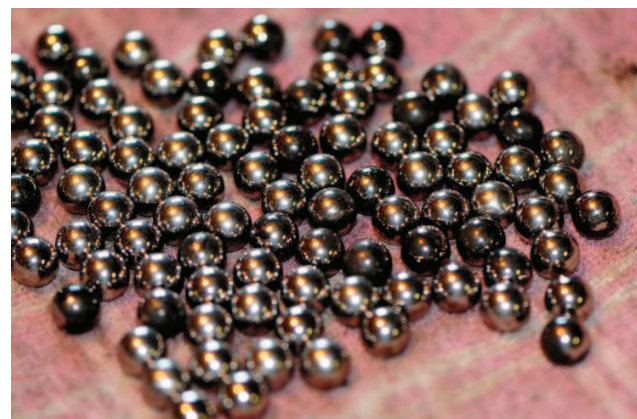
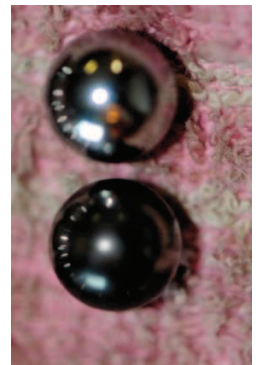
Grey or greyish black bearings indicate that there has been some erosion of surface metal of the cup at the same spacing as the rollers. Dirty lubricant is suspected but bearing assembly might be reusable if etching is slight.

Smears

Overheating (overloading) related to unwanted slippage between parts can cause metal smear. A loose fit, poor lubricant, or excessive loads can lead to smearing, and a smeared bearing must be replaced.

Fretting

Corrosion due to slight relative motion between parts without adequate lubrication. Parts replacement is called for.



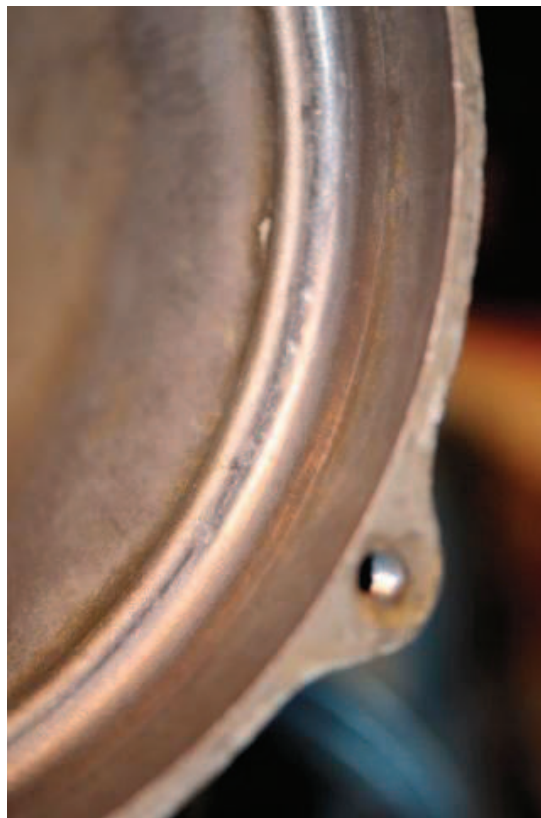
Stain Discoloration

Caused by breakdown of lubricant. If stain can be removed with solvent or light polish, a complete cleaning and repacking is all that is probably required to put assembly back in service 60% of the bearings in the rotor will need replacing. (See the greyish or black bearings among the shiny ones?)

Here you can see the broken chip out of the left stop. This was due to the absence of a brake in this model and the fact that the load was too heavy for the rotor. Wind load would have done this damage...and the switch that sits by this stop was also bent out of shape.



The photos below show the bell housing. Note the damage along the bearing runner. This indicates the load was unevenly placed on the rotor as either the thrust bearing was not properly adjusted, or more likely the whole load of the mast and antenna was put on the rotor....unevenly – not a “balanced” weight-bearing load.





Here we can see the meter pot...missing the entire arm! Where did it go? I could not find any remains inside!

At the bottom of my Varsol tub, when all the 3 to 4 varieties of grease where removed from the INSIDE of the housing...this is what was mixed in with the grease....dirt, metal bits and sand....maybe the pot arm is in there somewhere?

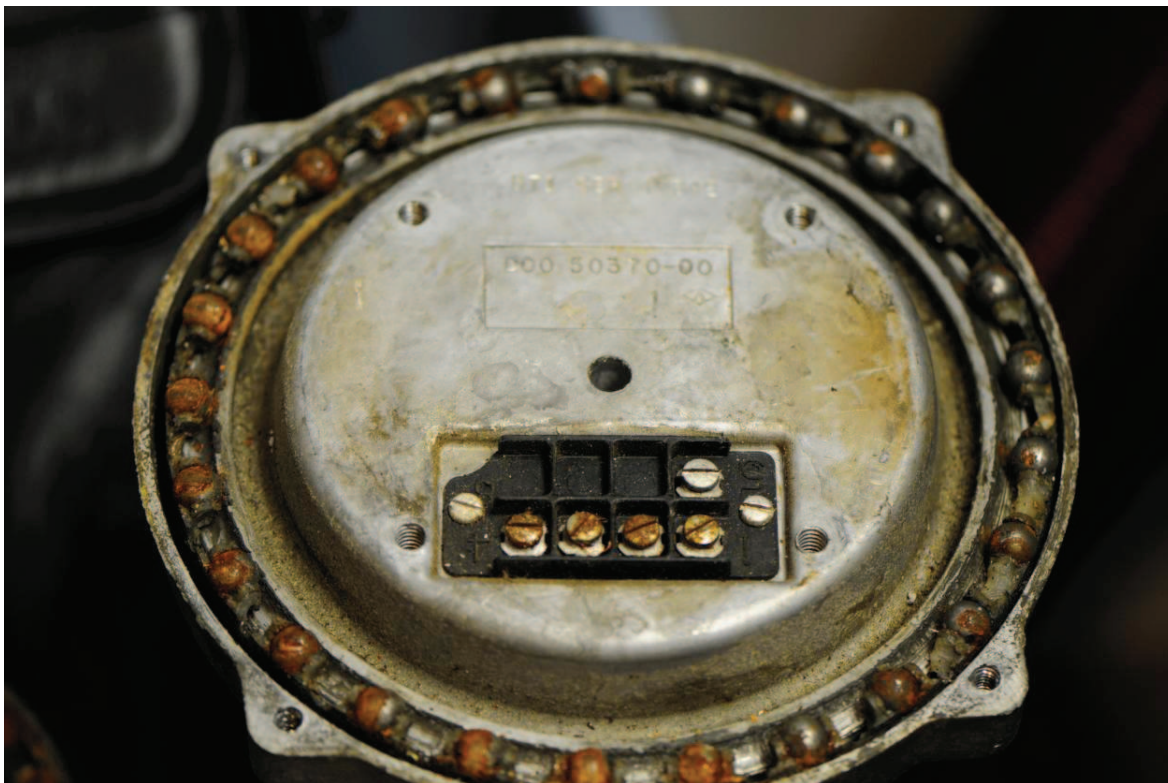


This pail was new and perfectly clean before I put the rotor parts and bearings in it!!

I found some rotors "filled" inside with grease!! Some with automotive grease, some toxic lithium grease – wads and clumps and gobs of gooey, dirty contaminated grease!! And do copious amounts of grease keep water out? No it does not!...but it's good at keeping water or moisture that did get inside to stay inside....in little pockets throughout the blob of grease... I even found 4 different kinds of grease in one Ham II – oh dear. I guess you really can't fix stupid.

How much grease to use you ask? A thimble full on the bearing tracks and gear teeth – that’s total – not a thimble full for each friction point. And that is after you have cleaned out the old grease and cleaned the inside...don’t just add new grease over old grease....it’s like adding new oil to dirty oil in your car...you replace that every 5000 Km, you need to clean out and replace the grease inside your rotor every 5-8 years, depending on your duty cycle.

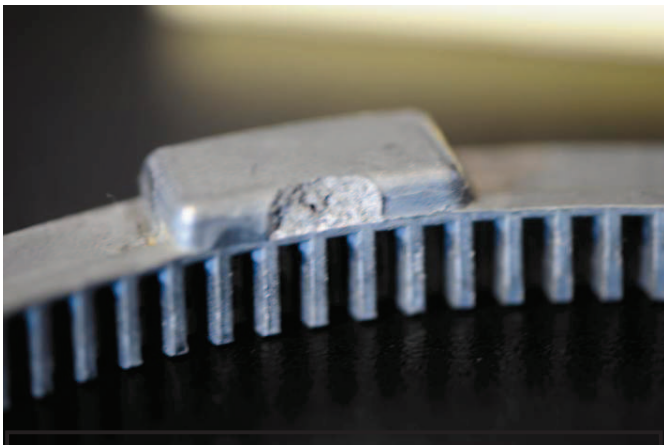
The photo to the right is a glass jar filled with Varsol. The 1 inch of black sludge at the bottom is what came off of a Ham II gear set and about 50 ball bearings I soaked overnight. That material is from bearing wear, dirt and metal bits from a decade of neglect. The “If it works, don’t touch it” philosophy from this Ham worked fine, until it stopped dead just 10 years into service. Had he taken care of it, he would have 30 more years of life....now I do! The grease he used solidified, allowed dirt and water ingress and it seized after a season or two of little or no use. He also “sealed” the terminal block with silicone sealant...and they rusted...the sealant kept the moisture inside nicely....Instead if using silicone based compounds, try spraying your terminal block and antenna/element connections with a UV resistant lacquer or polymer-based coatings.



No, grease doesn't keep water out of the bearing track! See the globs of solidified grease on the right?



Take a close look at the gear shaft on the left. Notice it? Yes, it's bent and shows signs of uneven wear. This take a lot of force. Force from an uneven or over weight load. Most Hams pay attention to the static loads, but few take into account the enourmous loads placed on a rotor in windy conditions – or don't bother "balancing" all their antennas or arrays.



See the pressure points in the bearing track in the photo to the right? That is caused by wind pressure on a 10 foot mast and large HF yagi being blown upon by a 50Kph wind, causing up to 2000 pounds of compression on the poor little bearings. And no, the thrust or mast bearing doesn't carry all the weight, just the static load or dead weight.

Notice what's missing? That's right, the cast tab on the ring gear – the one that hits the motor stop at each end of the rotation, is broken off...so the rotor doesn't know when to stop and keeps trying to turn....and the gearing ratio is such that it will keep trying until it breaks off more bits, burns out a resistor or two and maybe the motor winding – all just before the fuse blows...if it hasn't been replaced with a



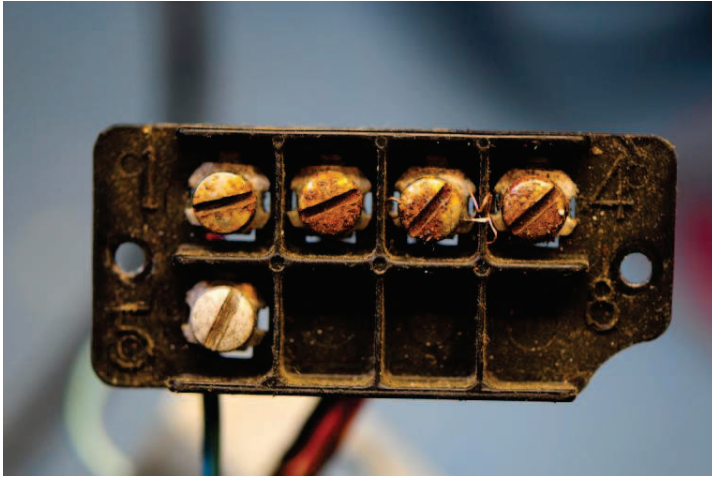
20Amp slow blow. ☹



Filling the 1mm gap between gears – just because they might rub – does nothing but eat away at the protective coating on the gears and expose the metal to oxidation. It adds to the motor's work load, especially if it becomes less viscous when it's cold or contaminated with moisture. And grease does not "seep" under things to lubricate...thus the wear under the washer...

Notice the track wear and the bearing discolouration of the bearing on the right. This is caused by using the wrong grease, or too much grease, and too heavy a load on the bearings. Some grease will eat away at the coating of the bearing, causing it to lose it's shape and ability to roll smoothly. It rubs on the bearing track, causing abbrasions which in turn cause further bearing damage and the cycle continues until the bearing seizes. If the wrong grease is used, it solidifies with temperature extremes or when contaminated with enough water and the whole rotor starts a destructive cycle..





This is a rotor terminal strip which was coated with layer of silicone of some sort. Not too bad for something that has been up a pole for 15 years....but it still got wet, the connections still failed and the wire turned green with oxidation – because of water wicking its way down the cable... Had he applied an annual coat of a spray lacquer or plastic coating, it probably would have lasted longer in our great wet coast weather. Spraying is faster, easier and does get into places a thicker, less fluid silicone may not. Clear UV outdoor FlecoVarathene® does a nice job.

Inside the control head of your “old” rotor box, look for signs of problems. There may be a 2-5 watt resistor that has discoloured or grown a spare tire around it’s middle...signs of excessive load currents...your motor is working too hard. Your rotor needs attention and the resistor needs replacing.

The motor start capacitor will need replacing at least once in its 40 year service...especially if you’ve given your rotor a heart attack from overwork. Check contacts, terminal screws and the wire....don’t forget your pet cat, rabbit or porcupine just loves to chew on rotor cables, ac cables, and headset cords....so check things behind or under your desk too.

If you don’t have a SWR meter in-line all the time, or a MiniVNA handy, it’s a good idea to check your antenna system with a meter or analyser of some sort for signs of trouble or changing SWR. Rig output can also change too....especially in older rigs, 25 years or older. The final transistors don’t last forever...

Good time to check your mobile installations, antennas and power connections are constantly stressed in your moving vehicle. Make sure all the connections are still solid and antennas are screwed on tight, and the SWR hasn’t changed since you installed it back in 1978....

Oh! How’s the ground rod and braid connection doing? Checked that lately? If there is corrosion on the connections, chances are your RF ground isn’t as efficient as it could be. Notice any change in the RF in your shack? Something not quite working the same way as last year? Might be a poor ground connection outside...don’t forget your anti-oxidant compound...good for aluminum, copper and brass connections ☺

Remember that a well maintained Ham Shack is a Happy Shack....All is not stable, consistent, reliable, everlasting, perfectly connected, nor installed with 100% accuracy or patience...For most hams, the motto is, “It’s not just good, it’s good enough!” The weekend is coming up....better go out and check that antenna before it starts to rain...again...or before it snows...



On a closing note, the reactivated Dogwood Chapter of the QCWA is canvassing for new “old” members. If you were licensed on or before 1985, you can join! For information on the QCWA go to their web site at <http://www.qcwa.org/> or <http://www.qcwa.org/chapter098.htm>

Next meeting is in the early part of November. Contact VE7EF@rac.ca for time, date and place.